

**ABSTRACT**

The invention relates to a system for electromagnetic processing of an input wave involving receiving a modified signal derived from two or more signals that represent the input wave when combined; and regulating the modified signal using at least one analog signal containing a characteristic of the two or more signals. Embodiments of the invention may utilize in-phase and quadrature phase signals, where the magnitude portion of the signals may be used for regulating the modified signal. The modified signal may be created by modulating a characteristic of the I, Q signals, such as their sign, with an RF or other frequency carrier wave.